

WHAT IS CLAIMED IS:

1. An interbrace for reducing torquing, twisting, and pivoting between a V-twin engine and a motorcycle transmission, said interbrace having an inboard and outboard side, said interbrace comprising:

a forward engine flange portion;

a rearward transmission end cap portion which functions as a transmission end cap;

and

a connecting portion interconnecting said engine flange portion and said transmission end portion.

2. The interbrace according to Claim 1, said engine flange portion further a first cam gear cavity centered about a first axis transversely oriented with respect to the outboard and inboard side, wherein the first cam gear cavity is adapted to receive cam gear components protruding from the engine.

3. The interbrace according to Claim 2, further comprising a cam gear cover.

4. The interbrace according to Claim 3, wherein said cam gear cover is removably attached from the outboard side of said engine flange portion.

5. The interbrace according to Claim 3, wherein said cam gear cover is integrally and unitarily formed to said forward engine flange portion.

6. The interbrace according to Claim 3, said cam gear cover having a second cam gear cavity concentrically disposed within an inner portion of said cam gear cover, and a timing cavity concentrically disposed within an outboard portion of said cam gear cover.

7. The interbrace according to Claim 6, wherein the first cam gear cavity and second cam gear cavity form a common concentric cavity.

8. The interbrace according to Claim 6, further comprising a removable timing cover adapted to cover and to be attached to the timing cavity.

9. The interbrace according to Claim 1, said rearward transmission end cap portion further comprising an inboard offset portion which gives said rearward transmission end cap portion a thickness T which is at least the thickness of a conventional rightside transmission end cap.

10. The interbrace according to Claim 9, wherein the inboard side of said rearward transmission end cap portion is adapted to interface with a rightside transmission end plate of a motorcycle.

11. The interbrace according to Claim 9, wherein the rearward transmission end cap portion thickness T allows the outboard side of said interbrace to comprise a substantially flat planar surface.

12. The interbrace according to Claim 9, further comprising a transmission end cavity adapted to house components protruding from the transmission.

13. The interbrace according to Claim 9, further comprising a transmission end cap cover removably attached to the outboard side of said engine rearward transmission end portion to cover the transmission end cavity.

14. The interbrace according to Claim 9, further comprising an internal conduit adapted to receive a clutch cable, the conduit having a first port positioned on a bottom side portion of said transmission end cap portion and a second port connecting said internal conduit to the transmission end cavity.

15. The interbrace according to Claim 1, further comprising a plurality of mounting holes for attaching said interbrace to the rightside of a V-twin engine and a rightside transmission end plate.

16. The interbrace according to Claim 15, comprising a first set of mounting holes positioned on said forward engine flange portion such that a first bolt pattern is provided which matches that of a rightside of a V-twin engine.

17. The interbrace according to Claim 15, comprising a second set of mounting holes positioned on said rearward transmission end cap portion such that a second bolt pattern is provided which matches the rightside transmission end plate.

18. The interbrace according to Claim 1, wherein said interbrace is milled from billet material.

19. An interbrace for reducing torquing, twisting, and pivoting between a V-twin engine and a motorcycle transmission, said interbrace having an inboard and outboard side, said interbrace comprising:

- a forward engine flange portion;
- a rearward transmission end plate flange portion; and

a connecting portion interconnecting said engine flange portion and said transmission end plate flange portion.

20. The interbrace according to Claim 19, said engine flange portion having a first cam gear cavity centered about a first axis transversely oriented with respect to the outboard and inboard side, wherein the first cam gear cavity is adapted to receive cam gear components protruding from the engine.

21. The interbrace according to Claim 20, further comprising a cam gear cover removably attached to the outboard side of said engine flange portion.

22. The interbrace according to Claim 21, said cam gear cover having a second cam gear cavity concentrically disposed within an inner portion of said cam gear cover, and a timing cavity concentrically disposed within an outboard portion of said cam gear cover.

23. The interbrace according to Claim 22, wherein the first cam gear cavity and second cam gear cavity form a common concentric cavity.

24. The interbrace according to Claim 22, further comprising a removable timing cover adapted to cover and to be attached to the timing cavity.

25. The interbrace according to Claim 19, said rearward transmission end plate flange portion being inwardly offset from said forward engine flange portion.

26. The interbrace according to Claim 19, wherein the inboard side of said rearward transmission end plate flange portion is adapted to function as a rightside transmission end plate of a motorcycle.

27. The interbrace according to Claim 19, wherein said forward engine flange portion and said rearward transmission end plate flange portion are oriented in a parallel manner with respect to each other, and said connecting portion interconnects said engine flange portion and said transmission end plate flange portion at an inclined angle.

28. The interbrace according to Claim 27, wherein a conventional transmission end cap is adapted to be attached directly to the outboard side of said rearward transmission end plate flange portion.

29. The interbrace according to Claim 27, further comprising a transmission end plate cavity adapted to receive components protruding from within the transmission.

30. The interbrace according to Claim 19, further comprising a plurality of mounting holes for attaching said interbrace to a rightside of a V-twin engine and a rightside transmission end.

31. The interbrace according to Claim 30, further comprising a first set of mounting holes positioned on said forward engine flange portion such that a first bolt pattern is provided which matches that of a rightside of the V-twin engine.

32. The interbrace according to Claim 30, further comprising a second set of mounting holes positioned on said rearward transmission end plate flange portion such that a second bolt pattern is provided which matches that the rightside transmission end plate.

33. The interbrace according to Claim 19, wherein said interbrace is formed by bending plate stock.